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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,789	12/20/2000	Takuya Watanabe	NEC2010-US	3842

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MCGINN & GIBB, PLLC
8321 OLD COURTHOUSE ROAD
SUITE 200
VIENNA, VA 22182-3817

EXAMINER

AWAD, AMR A

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 05/20/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,789

Applicant(s)

WATANABE, TAKUYA

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Examiner

Amr Awad

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2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1,9-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) 2-9 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 10 recites the limitation "said value" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9-10, 11-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awamoto et al. (US Patent NO. 6,452,590; hereinafter referred to as Awamoto).

As to independent claim 1, Awamoto (figure 1) teaches a drive apparatus for a plasma display panel (col. 6, lines 59-64), and includes charge recovery circuit that re-uses a recovered electrical charge (for that, Awamoto teaches that the driving circuits 27 and 28 have a power recycling circuit for collecting and reusing the power that was used for charging a capacitor) (col. 7, lines 40-49). Awamoto teaches a brightness detection means for detecting brightness so as to obtain screen brightness information (for that, Awamoto teaches a data processing system (23) includes a memory having a gradation

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information (brightness information) to be supplied to the driving circuit 28) (col. 7, lines 23-37). Awamoto teaches a charge recovery timing control means for controlling the charge recovery period from a time which a charge recovery operation of the charge recovery starts to the time of fixing to a sustaining potential (for that, Awamoto teaches that the power recycling circuit 33a in figure 4 includes 2 inductors 51 and 52, the inductance values can be out of the range depending on the design giving a high priority to the charging and discharging time or the power recycling ratio) (col. 9, line 66 through col. 10, line 23). This is clearly showing that the time of recycling is varying and can be controlled.

Awamoto does not expressly teach that the recovery time control means controls the charge recovery period in response to the brightness information obtained by the brightness detection means.

However, as shown in figure 1, the control data DA that includes the brightness information is supplied to the address driver circuit (29), which includes the recycling circuit. The recycling circuit has different recovery period. Therefore, to have the correct brightness, the recovering of the charges will depend on the intensity (the brightness) of the display.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to realize from Awamoto's device that the period of the charge recovery will depend on the brightness of the display because, if the brightness of the device is high, the period or recycling (recovering) will increase to accommodate the excess of the charges, and if the brightness of the device is low, the time of

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recycling will be low. Such relation between the brightness and the recovering of the charge will reduce the power consumption without the degradation of the brightness (intensity) of the display device.

As to claim 9, Awamoto show power supply (25), such supply usually indicates the amount of power to be consumed in certain time, which broadly reads on the limitations power consumption measuring means in claim 9.

As to independent claim 10, the method of claim 10 is corresponding to apparatus claim 1 and is analyzed as previously discussed with respect to apparatus claim 1.

As to claim 11, it is known that the brightness of a display is the brightness of each pixel in the display area (see Col. 7, lines 18-22).

As to claim 12, the claim is similar to claim 11 above, by considering that the pre-established pixels of claim 11 are each pixel in the effective display area of the plasma display.

As to claim 13, using the broadest reasonable interpretation of the claim, we can fairly see that in Awamoto's device, if the accumulating brightness is high, the time for recovery will be longer (col. 14, lines 1-9).

As to claims 14 and 18-19, the claims are a broader version of independent claims 1 and 10, and are analyzed as previous discussed with respect to claims 1 and 10.

As to claim 15, Awamoto teaches an accumulator for accumulating a brightness of each pixel (col. 7, lines 18-22).

As to claim 17, it is known that the brightness of a display is the brightness of each pixel in the display area (see Col. 7, lines 18-22).

As to claim 20, using the broadest reasonable interpretation of the claim, we can fairly see that in Awamoto's device, if the accumulating brightness is high, the time for recovery will be longer (col. 14, lines 1-9).

Allowable Subject Matter

4. Claims 2-8 and 16, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 2-5, 8 and 16 none of the prior art of the record either singularly or in combination, teaches or fairly suggests a plasma display panel that includes among other features, an image signal accumulator for accumulating the brightness of each pixel, and an accumulated value comparator for determining whether an accumulated valued detected by the image signal accumulator is larger or smaller than a prescribed value.

As to claim 6, none of the prior art of the record either singularly or in combination, teaches or fairly suggests a plasma display panel that includes among other features, having the charge recovery timing control means controls to change the charge recovery period for only a sub-field that has relatively large brightness weight, and leave the charge recovery period that has relatively small brightness weight.

As to claim 7, none of the prior art of the record either singularly or in combination, teaches or fairly suggests a plasma display panel that includes among other features, counting the number of pixels of a brightness exceeding pre-established reference brightness.

Response to Arguments

5. Applicant's arguments filed 02/28/03 have been fully considered but they are not persuasive.

Applicant (bottom of page 9) argued that Awamoto would not have been modified, as alleged by the Examiner, to teach the claimed limitation, because the Examiner has admitted that Awamoto does not expressly teach the recovery time control circuit that controls the charge recovery period in response to the brightness information obtained by the brightness detection circuit. Examiner respectfully disagrees.

Examiner specifically states in the Office Action above that "the control data DA that includes the brightness information is supplied to the address driver circuit (29), which includes the recycling circuit. The recycling circuit has different recovery period. Therefore, to have the correct brightness, the recovering of the charges will obviously depend on the intensity (the brightness) of the display." This simply means that since the control data, which includes the brightness information, is supplied to recycling circuit; then such data in turn will affect the recycling circuit, and since this data includes the brightness information; then the brightness information would be a factor in the recycling circuit. Awamoto's reference does in fact teach the limitation but in the

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collective sense. In other word, because the brightness is part of the control data; it affects the recycling circuit. Therefore, the obvious statement provided by the Examiner is to affirm that, Awamoto's device teaches the limitation but in the obvious ground and not in the anticipation ground.

Applicant (third paragraph of page 10) argued that Awamoto does not teach or suggest a "charge recovery timing control circuit for controlling a charge recovery period from a time at which a charge recovery operation of said charge recovery circuit starts to a time fixing to a sustaining potential or a ground potential". Applicant argued that Awamoto merely teaches a range of inductance values and states that the inductance can be out of range. Examiner respectfully disagrees.

It is respectfully submitted that the mentioned limitation is broad enough that Awamoto's reference fairly reads on it. The limitation of claims 1 and 10 is simply stating that the charge recovery period is controlled to start from the starting of the recovery circuits to a time of fixing to a sustaining potential or a ground potential. The alternative language of the limitation allows the examiner to consider that the charging recovery is carried out from the starting of the recovery circuit till the ground potential. Such limitation is being fairly taught by Awamoto, because the resonance circuit, which recovers the charges, will not be functioning if it reaches a ground potential. Therefore, the resonance circuit taught by Awamoto controls the controlling of the recovery time.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703) 308-8485. The examiner can normally be reached on Monday-Friday, between 9:00AM to 5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703) 305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.



STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 26th

A.A.

May 7, 2003